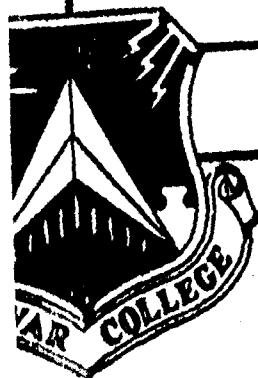


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# AIR WAR COLLEGE

## RESEARCH REPORT

CLOSE AIR SUPPORT TODAY AND TOMMOROW

MR LESLIE R. KEMP

1989

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AIR UNIVERSITY  
UNITED STATES AIR FORCE  
MAXWELL AIR FORCE BASE, ALABAMA

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AIR WAR COLLEGE  
AIR UNIVERSITY

CLOSE AIR SUPPORT TODAY AND TOMORROW

by  
Leslie R. Kemp

A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY  
IN  
FULFILLMENT OF THE CURRICULUM  
REQUIREMENT

Advisor: Colonel William H. Huffcut

MAXWELL AIR FORCE BASE, ALABAMA

May 1989

# DISCLAIMER

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## EXECUTIVE SUMMARY

TITLE: Close Air Support Today and Tomorrow

AUTHOR: Leslie R. Kemp

→ This study looks at close air support on both the high- and low-intensity battlefields. Several wars which have occurred during the 1980's are examined and close air support lessons are derived. Recommendations are given concerning missions and roles for the Army and Air Force. The Army has the capability to accomplish a close-in fire support mission which would allow the Air Force additional capability to accomplish its higher priority missions on the high-intensity battlefield. In a lower intensity environment, joint Air Force-Army operations are still required, dependent on characteristics of the situation. (S)

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## BIOGRAPHICAL SKETCH

Mr. Leslie R. Kemp (M.S., Purdue University) is employed as a supervisory cartographer at the Defense Mapping Agency Aerospace Center, St. Louis, Missouri. He has been employed at DMAAC since August 1966 in a variety of technical and supervisory positions. His last position was chief of Terrain Feature Division IV. This division is responsible for producing Digital Land Mass Simulation terrain data and TERCOM data. Mr. Kemp also served for four years as DMA Liaison Officer at the UK Directorate of Military Survey, Feltham England. Mr. Kemp is a graduate of the Air War College, class of 1989.

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## CHAPTER I

### INTRODUCTION

Recent congressional actions have brought a renewed focus on the question of which military service will accomplish the close air support (CAS) mission. In August 1988, Senator Alan Dixon, D-IL., attached an amendment to the Senate version of <sup>the</sup> Department of Defense Appropriations Bill. This amendment required the defense secretary to "...assess the feasibility of transferring, from the Air Force to the Army, the close air support mission beginning no later than FY 1992." (1:4) When the amendment was later deleted in House-Senate conference deliberations, Senator Dixon successfully attached the same amendment to the Base Closure and Realignment Act. (2:7) As a result, the Joint Chiefs of Staff will examine the question of Army or Air Force CAS responsibility. Based on statements made by General Vuono, Army Chief of Staff and General Russ, Tactical Air Commander, there appears to be significant high-level support for continuing the status quo. (3:17; 4:30; 5:107) It, therefore, appears unlikely a major change in CAS roles will evolve based on Army or Air Force initiative.

There is another aspect to the CAS issue that might very well force a further indepth review by the Army and the Air Force; that being the need to modernize the Air Force airframe platforms dedicated to the CAS mission. A relatively recent legislative direction has instructed DOD to examine in-depth, follow-on airframes, in view of perceived obsolescence of the current CAS support system, the Air Force A-10A, Thunderbolt 2. This system, which has been on line since the early 1970's is now considered too slow (400 knots, maximum speed) to be survivable in the high-threat European theater. The potential exists for up to a three billion dollar development when the options are evaluated and a decision made for future procurement. (6:84) In an era of declining DOD budgets and competing priorities, this issue is certain to draw considerable attention, both from the Pentagon and the Congress.

The generally accepted definition of close air support specifies attack on hostile targets in close proximity to friendly surface forces, requiring detailed coordination and integration with the fire and maneuver plans of friendly surface forces. (7:3-4) While much has been written about CAS on the mid- and high-intensity battlefield in Europe, little has been published about how CAS will be applied on the low-intensity battlefield in other parts of the world in support of the Army.



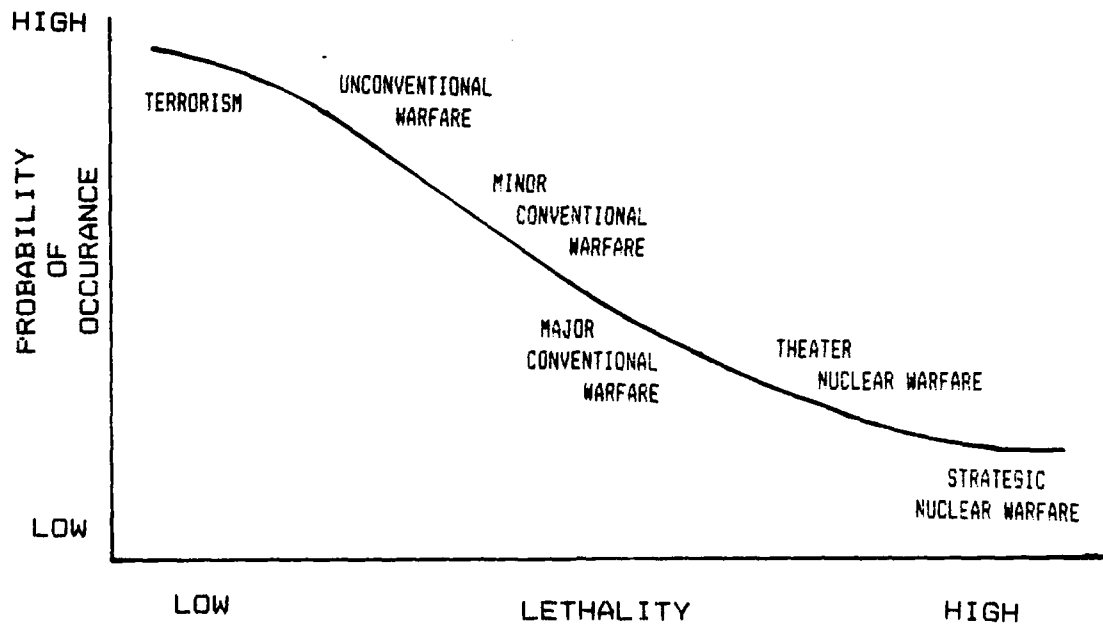
This paper will focus on the low-intensity end of modern battlefield spectrum and the current associated Army CAS requirements and Air Force capabilities on this most likely combat scenario in this decade of the '90's. It will also closely examine the perceived need for traditional CAS delivered by Air Force aircraft in support of US Army forces on the low-intensity battlefield and whether Air Force delivered CAS, as we define it in today's terms, is really required.

## CHAPTER II

### BATTLEFIELD DESCRIPTION

#### Probability of War

The United States Military has to be prepared to fight effectively across a range of conflict intensity. This range varies from combating terrorism through conventional warfare to strategic nuclear warfare. (8:12) One can associate with the continuum a probability of occurrence for the various types of warfare. While these types of warfare may have debatable probabilities of occurrence, a probable estimate of their occurrence can be depicted in a chart such as the following:



The likelihood of conflict decreases as the lethality of conflict increases. If mankind's future reflects its past, we can expect many instances of terrorism and unconventional warfare, a few periods where some degree of conventional warfare occurs and, hopefully, no instances of nuclear warfare.

These degrees of warfare have also been described by the terms low-, mid- and high-intensity warfare. Interestingly, the Joint Chiefs of Staff Publication 1, Dictionary of Military and Associated Terms has no definition for mid- and high-intensity conflict. Its definition of low-intensity conflict is the following:

A limited politico-military struggle to achieve political, social, economic or psychological objectives. It is often protracted and ranges from diplomatic, economic and psychosocial pressures through terrorism and insurgency. Low-intensity conflict is generally confined to a geographic area and is often characterized by constraints on the weaponry, tactics and the level of violence. Also called LIC. (9:214-215)

The US Military services are more intensely trained and better equipped to fight in mid- and high-intensity conflict than in low-intensity conflict. At the same time, as is seen above, the most probable type of conflict is in the low-intensity area. Of interest to this paper is CAS and its relationship to the levels of conflict. In the latest definition of CAS and battlefield interdiction requirements generated by the US Army and sent to the Air Force, nine of the thirteen pages address requirements for mid- and high-

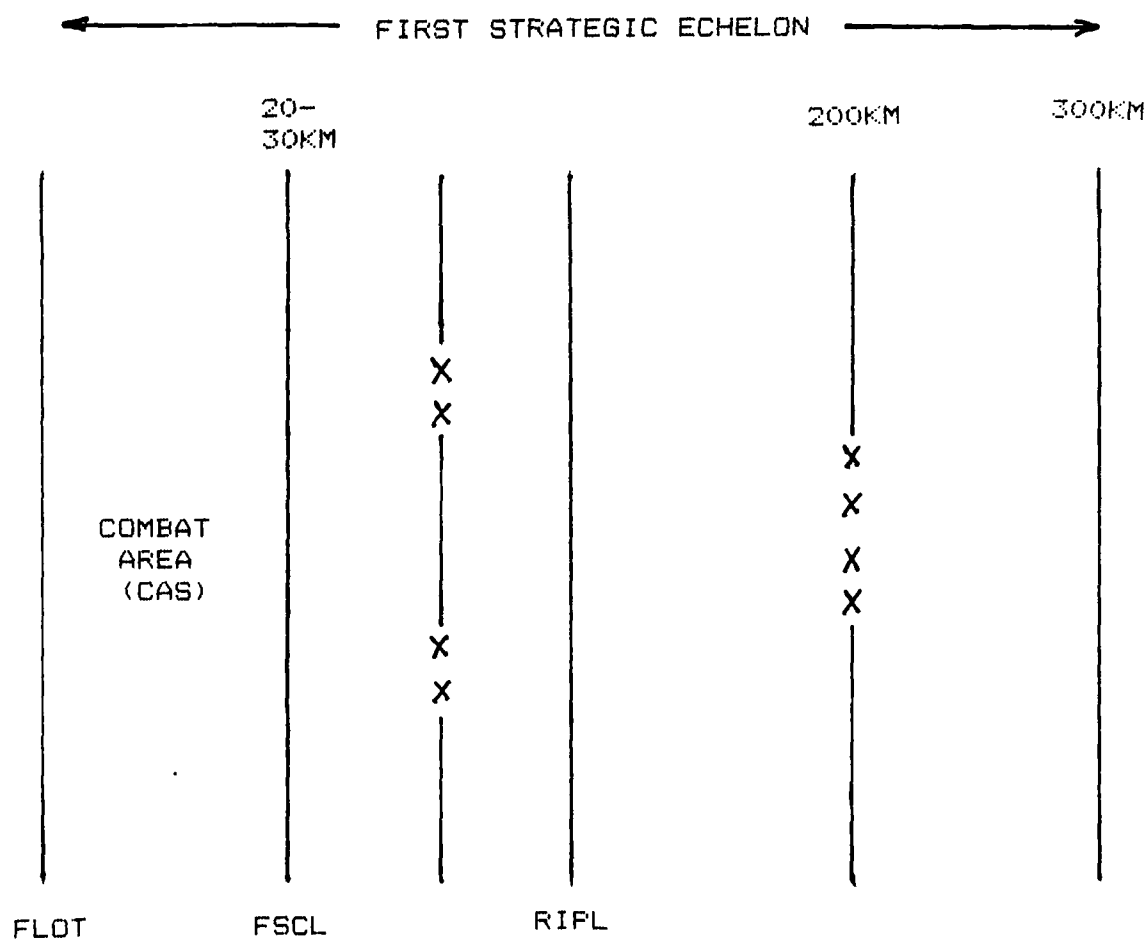
intensity conflict. The remaining three and one-half pages address low-intensity conflict. (10:1-13) Either low-intensity conflict is easier to define, or perhaps, not enough interest is being paid to this type of warfare. I suggest the latter is the case.

#### High- and Medium-Intensity Battlefield Description

As described in the section on Probability of War, if conflict is to occur, low-intensity appears to be the much more likely form of conflict. Recent world events give indications this will continue to be the case. Since WWII, Europe has remained relatively stable due to NATO efforts and the nuclear shield provided by the United States, Great Britain and France. The recent Soviet proposals to unilaterally reduce its tank forces, troop strength and numbers of aircraft should reduce the threat of conventional conflict. This will be the case assuming the western alliance does not reduce its capability to such a low level that aggression is invited and provided the Warsaw Pact actually follows through on its stated intentions.

The high- and medium-intensity type of battlefield is usually described as occurring in Europe or Korea. The traditional descriptions and AirLand Battle doctrine describe it in terms of forward line of own troops (FLOT), fire support coordination line (FSCL), reconnaissance and interdiction planning line (RIPL), first and second strategic echelons, and joint attack of the second echelon (J-SAK).

(11:60-69) A battlefield diagram might look like the following:



Although AirLand Battle doctrine gives definition to such concepts as initiative, agility, depth, synchronization and close, deep and rear operations, (12:19-22) the fluidity of the modern, high-intensity battlefield has been more vividly portrayed by other writers. (13:43-51) This fluidity is, in part, a result of high technology and the advances made in modern artillery. Because increased accuracy and range have resulted from improvements in artillery tube design, artillery rounds, and fire direction systems, ground forces must be more maneuverable. (14:149-163) They must quickly move from one location to another to avoid return fire. In an example of high technology application, the Defense Mapping Agency, working with the Department of the Army, has supported development of the Firefinder Artillery Suppression System. Incoming artillery trajectories, detected by radar, are reverse computed to find their point of origin. When the trajectory information is combined with DMA generated digital terrain models, very accurate coordinates are obtained for return fire. Capabilities such as this are likely to be duplicated by Warsaw Pact forces thereby enforcing mobility for survival on both sides in the combat area. As has always been the case, the commander who acts faster than his opponent reacts, has the advantage.

The impact of technology advances and mobility results in a much more dynamic battlefield than experienced in previous wars. Instead of the usual well-defined positions occupied by the adversaries, the combatants will very likely be intermixed with pockets of forces intermingled over a broad area. Groups of soldiers will hopscotch in attempts to neutralize important, specific targets in enemy rear areas. In all likelihood, the area rearwards from the FLOT will not uniformly belong to one side or the other; rather, it will contain pockets of enemy forces. This has been depicted as non-linear operations. (13:47, 12:2)

The implication for close air support on this battlefield is one of potential dire need by individual units coupled with extreme difficulty for the CAS pilot in identification of the combatants and locating targets. Another implication is the potential need for CAS much further away from the traditional bases of operation as the battlefield widens. Communications are expected to be extremely vulnerable on the future battlefield. These problems, coupled with rapid troop movements will pose a much different problem for CAS mission accomplishment than has been the case in the past.

The Army requirements statement for CAS in a mid- and high-intensity conflict is straight forward and relatively brief. Excerpts from the September 1987 requirements document follow:

CAS delivery systems must be capable of: (1) Providing the required dedicated air-ground interfaces; (2) Responsive delivery of effective ordnance in close proximity to friendly ground forces during day, night and under-the-weather conditions; and (3) Surviving in the threat environment during mission execution. (10:4)

These are further explained in the requirements document to include high sortie rates, capability of traversing lethal air defense systems enroute and operating in the dense air defense environment at the FLOT. The CAS delivery system must be capable of engaging targets without undue risk of fratricide. The document identifies offensive and defensive CAS targets. Essentially, these targets are identical. Tanks and infantry are listed under both situations although as a defensive CAS target they are quantified as tactically deployed moving or stationary. Organic and supporting artillery are listed as defensive CAS targets while "...moving or stationary targets many in prepared positions, arrayed in depth..." are listed as offensive CAS targets. Additionally, command and control vehicles are listed as offensive targets. (10:5) No explanation is given as to why command and control vehicles would not also be targets in a defensive engagement. This one exception is the main distinction between offensive and defensive CAS as far as the



Army requirements statement is concerned.

The requirements for effective air-ground interface for close air support are defined as follows:

- (1) Automatic target hand-off capability.
- (2) Means to visually or electronically acquire and identify the designated target.
- (3) Means to discriminate decoy targets.
- (4) Secure anti-jam communications between air elements of the CAS system, Army aircraft and the ground commander.
- (5) Airborne capability to identify position of friendly ground forces.
- (6) Means to identify CAS platforms as friendly aircraft to friendly ground forces. (10:6)

The last major requirement component in the mid- and high-intensity conflict involves CAS mission planning and execution. In this area, requirements are defined as the following:

- (1) Detailed integration with involvement and fires of friendly ground forces
- (2) Timely intelligence information
- (3) Suppression of air defense systems
- (4) Integrated, dedicated CAS planning system with habitually associated interactive elements. (10:7)

In looking at these requirements and at current US Army capability, it is difficult to escape the conclusion the Army has satisfied its CAS requirements in a de facto fashion. The only factor missing is the doctrinal basis for conducting close air support. The Army has a capability which can be best described as close-in fire support (CIFS). Using its AH-64 Apache helicopters with their Hellfire missiles and 30 mm chain guns, ordnance can be delivered to within 200 meters or less of their own troops. To be an

effective capability in its CIFS mode, and to possess a reasonable level of survivability over a modern, integrated battlefield, the helicopters must have a self contained air-to-air capability as well as overall air superiority maintained by the Air Force. Surface to air missile batteries in the immediate operating area must have been neutralized and nap-of-the-earth flying tactics must be used to limit helicopter exposure to ground fire. (15:44) Under these conditions, the coordinated application of long range accurate artillery and helicopter offensive systems is an effective capability allowing the Army to meet its needs for close air support. These systems work together effectively because they can be controlled effectively by the battlefield commander.

The current USAF CAS doctrine requires CAS support requests generated by the Army to be transmitted up an extensive command, control and communication (C<sup>3</sup>) system, going from battalion through brigade, division, corps and then to air component headquarters and then passing back down through the wing to squadrons. (13:48) This cumbersome communications system suffers from two deficiencies: lack of immediacy and danger of incapacitation. The Army capability, in contrast, has a single communications system linking the field commander with his artillery, infantry and helicopter assets. Although it faces the same jamming threat, enemy

actions far to the rear are not going to disrupt communications as will the potential devastating situation if the air component headquarters is damaged or destroyed. Additionally, local field commander's orders for close air support are likely to be accomplished much more quickly from the forward based Apache helicopters than will occur with the existing extensive C<sup>2</sup> system.

#### Low-Intensity Conflict

The US Army CAS/BAI Concept requirements statement acknowledges low-intensity war as being the most probable form of conflict in the next two decades. (10:9) Some of the characteristics of this type of conflict include restrictive rules of engagement, counterinsurgency activity, training of foreign soldiers, advisory activities, rescue missions, peacekeeping missions or antiterrorist activities with potential protracted duration. (12:4-5)

In dealing with low-intensity conflict from a close air support point of view, the Army states a responsive aircraft with day-night capability will be necessary to conduct operations at irregular, unpredictable intervals. The Army is emphatic in stating low-intensity conflict does not equate to low technology. They feel the air defense environment may be lethal although less concentrated than that for high-intensity conflict. Ground targets are

expected to be well camouflaged, dispersed and fleeting and require long loiter times. Because there is a good likelihood combatants will operate in close proximity to non-combatants, precision targeting capabilities will be necessary to limit collateral damage. (10:11-12)

In looking at low-intensity conflict and close air support, a primary consideration is how intense is the conflict. At the lowest level, where diplomatic, economic and psychosocial pressures are employed and objectives are very limited, CAS is obviously not a factor in the conflict. At the higher end of low-intensity conflict, i.e. insurgency, the use of close air support depends on availability, the nature of the threat, and the desires of the force commander. A fundamental determining factor is one of costs. Is the value of the target proportionate to the risk involved in attacking it? Widely dispersed ground forces carrying lethal surface to air missiles are not appropriate targets for today's CAS capacity. The combination of small arms fire and a system such as the Soviet SA-7 has been shown to be devastating to some of the platforms now used for close air support. Additionally, dispersed targets are difficult to find and are likely to waste available ordnance.

### AirLand Battle Description

With the advent of AirLand Battle doctrine, Army thinking has evolved to take account of advances in capability which are reshaping the way the next war will most likely be fought. AirLand Battle doctrine calls for "...ability to fight in accordance with four basic tenants: Initiative, Agility, Depth and Synchronization." (12:14) A closer look at the AirLand Battle doctrine will help to more clearly define the Army application of power on the modern battlefield.

Initiative: taking control of the battlefield by setting or changing the terms of battle by action. Offensive spirit is implied. In an offensive operation, the central theme is to keep the enemy off guard and not allow him the time to recover from the initial attack. Surprise is essential. Other elements used in Army FM 100-5 include concentration, speed, audacity and violence in execution. The enemy is not given the time to marshall his own forces because of the rapidity of the developing attack intended specifically to overwhelm him. In a defensive situation, the Army intent is to turn the tide of battle as quickly as possible. Army doctrine suggests offense is preferable to defense and so this is the objective. By regrouping and bringing concentrated forces against the attacking force directly, by flanking action, or in combination, the

objective for the Army is to take the action to the enemy rather than be in a reactive situation. Intelligence is used along with rapid reaction so that the tempo and initiative can be dictated. (12:15)

Agility: a necessary element in order to take the initiative. It is the ability of friendly forces to act faster than the enemy. This quickness of action is manifested by rapid execution of operations such that an enemy reaction is never completed before a new operation against him is begun. (12:16)

Depth: a three-dimensional concept of operations in space, time and resources. In an attacking mode, depth permits momentum to build and be maintained by sustaining operations with the goal of projecting tactical operations deep into the enemy's vulnerable areas while moving logistic resources forward and protecting the Army's own vulnerable rear areas. (12:16)

Synchronization: the process of arranging battlefield activities in time, space and purpose with the objective of producing maximum combat power at a decisive point. The synchronization process as developed by the Army is divided into close, deep and rear operations. Of particular interest to this paper is close combat which includes close air support. Deep and rear operations against enemy forces

ultimately affect close operations; hence, the importance of synchronization of operations by the respective commanders requires deliberate planning and staff coordination. (12:17-19)

### Close Air Support

Close air support is described by Air Force Manual TACM 2-1. According to this manual, there are three basic purposes for close air support. CAS operations are conducted to (1) blunt an enemy attack on friendly positions, (2) help ground forces obtain and maintain the offensive and (3) provide cover for friendly movements. (16:4-37)

In 1943, Field Manual 100-20 was published. It laid out priorities for using air power in a theater of operation. First priority is to gain air superiority. The second priority is to prevent movement of troops and supplies into and within theater (air interdiction). The third priority is to participate in a combined effort of air and ground forces (close air support). (17:1-11) Air Force Manual 1-1, Basic Aerospace Doctrine of the United States Air Force, was published in March 1984. In section 3.3 Air Force missions are listed as follows:

- Strategic Aerospace Offense
- Strategic Aerospace Defense
- Counter Air
- Air Interdiction
- Close Air Support

Special Operations  
Airlift  
Aerospace Surveillance and Reconnaissance  
Aerospace Maritime Operations (16:3-2)

In the relative ranking CAS has remained in the same position with respect to counter air and air interdiction that it had in 1943. Air Force doctrine properly reasons air superiority must be achieved before other operations can be accomplished. The allocation of sorties to perform specific tasks is made by the Air Force Commander. When sorties have been allocated for CAS, the ground force commander determines what targets will be attacked. (16:4-40)

#### Chapter Summary

The Air Force CAS mission is one which has significant capability applied against it in the European theater. Over a long period of time, the Air Force has planned and developed doctrine supporting Army CAS needs. However, Army doctrine has changed significantly since WW II. In its current form, AirLand Battle gives the Army a flexibility to meet Warsaw Pact challenges. Air Force CAS doctrine addressing the high-intensity, European theater on the other hand, has remained relatively fixed in terms of its relative ranking against other Air Force missions.



On the low-intensity battlefield, Army CAS requirements emphasize a capability to deal with the unique characteristics of this type of conflict. Since the majority of A-10's are based in Europe, it is not likely they will be used in low-intensity conflict. It is more likely the Air Force will use the AC-130 Spectre gunship and possibly the OV-10A Bronco for low-intensity conflict close air support. These platforms possess requisite capabilities to fulfill the CAS mission.

### CHAPTER III

#### RECENT WARFARE

##### Grenada 16 Oct - 2 Nov 1983

The US military intervention in Grenada was one with specific aims and rules of engagement. According to Vice Admiral Joseph Metcalf, Commander of Joint Task Force 120, the Grenada mission objectives were to "Conduct military operations to protect and evacuate US and designated foreign nationals..., neutralize Grenadian forces, stabilize the internal situation [and] maintain the peace." The rules of engagement directed him to "Use force and weapons as may be essential to the accomplishment of the mission. Minimize the disruptive influence of military operations on the local economy...", [and] "...execute initial tasks readily with minimum damage and casualties." (18:281)

Close air support operations were very important in the execution of this military intervention. The operation was accomplished with minimal advance notice. Planning began on 16 October 1983 with D-Day occurring on 25 October. It can be characterized as a "come as you are" conflict. The US used an overwhelming force of 5600 soldiers against a defending force of 600 in the Grenadian People's Revolutionary Army and about 2500 in the militia. Also on

the island, and taking part in the defense against the intervention, were 784 Cubans involved in construction work but including 53 military advisors to the People's Revolutionary Army. (19:122)

Close air support was conducted from several platforms during the intervention. After the initial insertion of a Delta team to reconnoiter the Point Salines air strip, the team was detected by members of the Cuban garrison and were pinned down by small arms fire for nearly four hours. At about daybreak on 25 October, they received support from an AC-130 Spectre gunship using miniguns and automatic howitzer fire until a ranger unit rescued them later in the morning. The Navy SEAL team that attempted to rescue the Governor General from his residence also became entrapped and called in AC-130 Spectre gunship close air support. The 82nd Airborne Division, in attempting to gain control of Point Salines air strip required close air support from A-7E Corsairs, AC-130 gunships and combat assault helicopter gunships. On the last day of significant hostile activity, Thursday 27 October, the Calivigny barracks were softened up by Navy A-7E Corsairs and by the use of 155mm artillery coordinated by an airborne Forward Air Controller. As the assault on the barracks was accomplished by Rangers and 82nd Airborne paratroopers, AC-130 Spectre gunships provided covering fire of the surrounding hills. (20:157,

161, 166, 171) Additionally, AH-1T Sea Cobras were used in close air support missions against the Fort Frederick command post on D-Day. (21:53) In an after-the-fact move, 12 Air Force A-10A Thunderbolt II attack aircraft from the 23rd Tactical Fighter Wing at England AFB, Louisiana, were moved to Barbados on 30 October. They returned to Louisiana soon after hostilities officially ended on 2 November without being used. (21:58-59)

This conflict showed the capability and vulnerability of US CAS assets in a low-intensity environment. The US had overwhelming superiority in manpower and weapons. Yet the battle was not easily won. Conventional antiaircraft fire, although relatively minimal and unsophisticated, was effective against US helicopters. Execution of operations left much to be desired in terms of effectiveness. US joint forces had trouble communicating with each other. But the outcome was decisive and US objectives were met. Close air support played a large part in bringing this about.

## The Falklands War

The British effort in May and June 1982 to regain administrative control of the Falkland Islands shows a much lower level of CAS activity than occurred in Grenada. Examples of CAS activity include the following: The 28 May attack on Goose Green required ground movement across a narrow isthmus. This was accomplished after the British troops called in support from RAF GR3 Harriers to suppress heavy fire from artillery, 30mm anti-aircraft cannon and artillery. (22:104) The preparations for the final assault on Stanley required capture of surrounding high elevations. One of these, Mount Longdon, was well defended by the Argentine 7th Infantry Regiment. Naval gunfire was successfully used here in a CAS-like manner in dangerously close proximity to British positions. (23:17)

The relative lack of CAS activity in the Falklands can be explained by several reasons. (1) The British had limited air capability. The Harrier force was occupied mostly in counter-air missions. Not only did activities over the islands require their attention, they were responsible for air defense over a vast sea area. This spread the British offensive air capability quite thinly. (2) The Argentine Army forces fought mainly in static defensive positions. Although this does not necessarily rule out CAS

activity, the Argentines quickly lost a significant portion of their air force in their efforts to attack the British fleet and the beachhead at San Carlos. After this occurred, remaining air assets were used sparingly and only against high value targets such as the action against the landing ships (logistic) Sir Galahad and Sir Tristram on 8 June at Bluff Cove and Fitzroy. There were no air efforts to support Argentine troops using close air support methods. (3) There was a conscious effort by the British to limit damage to the civilian population and their community at Stanley.

The vulnerability of helicopters to small arms fire was demonstrated again in this war. (22:86) The general vulnerability of aircraft to shoulder-fired and other SAM systems was also demonstrated. Of the 109 Argentinian aircraft losses during the war, 41 were attributed to SAM action. This was the highest single cause of Argentine aircraft loss. (24:980)

A lesson of this war may be that CAS is not always appropriate or possible in every conflict. The unique conditions of a situation such as the British and the Argentines found themselves in may preclude this type of activity.

## Afghanistan 1980-1989

Many strategists draw parallels between the US involvement in Vietnam and the Soviet experience in Afghanistan. In considering the role of close air support there are some similarities. In their attempts to quell the Mujaheddin, the Soviets have used heavily armed helicopters as far back as 1982-83. (25:86) Their tactics borrowed heavily from US experience in Vietnam, particularly in the use of the MI-24 Hind D helicopter gunship. A common tactic, particularly early in the war, was to locate the enemy, surround them with infantry and then annihilate them with CAS from the helicopters or from fighter bombers. The helicopters were particularly successful early in the war because of "nap-of-the-earth" flying tactics and because of the limited Mujaheddin antiair capability (26:44; 27:64) As the war progressed, the rebel forces were supplied with American built Stinger surface-to-air missiles. The introduction of this antiair capability certainly changed the situation significantly and is one of the contributing factors that resulted in the Soviet military withdrawal. Soviet forces were, in effect, denied the air cover necessary to conduct their operations. As the withdrawal came to a climax, the Soviets relied more on artillery than on airpower for combat support due to the limitations on their air support operations. (28: 136, 139)

### Iran-Iraq War

This war, far removed from the low-intensity end of the conflict spectrum, has had far-reaching implications for much of the world. It has been characterized, on the land, by a basically static situation with neither side able to overwhelm the other. Another characteristic of this particular conflict has been the extremely large numbers of casualties suffered on both sides. One commentator described it as similar to "...a sort of trench warfare, that is reminiscent of 1914-1918." (29:77) Close air support has been conducted only by the Iraqis. This CAS has been applied using Soviet equipment, the SU-20 (Fitter), MIG-23 (Flogger) and the MI-24 (Hind) helicopter gunship. The basic tactic used by the Iraqis, was to allow a significant Iranian force to break through a selected area of the front. Artillery was then used to pin them in place while Iranian reinforcements were interdicted using air power. A combined arms group of CAS, artillery and infantry would then annihilate the trapped force. This tactic has been used again and again against the human-wave Revolutionary Guards. (30:60)



### Lebanon-Bekaa Valley 1982

This conflict was characterized by intense air activity and the quick Israeli accomplishment of air superiority. Close air support, as such, was not a large element in the war. About 500 Syrian tanks were destroyed. Only about 20% of these were destroyed by air attacks with about 5% attributable to attack helicopters using TOW missiles. (31:575) Of significant interest in this war was the Israeli success in suppressing Syrian surface-to-air missile (SAM) capabilities. This was accomplished by advanced electronic warfare methods employing remotely piloted vehicles (RPVs) and attacks on radar installations. (32:16)

### Chapter Summary

The evidence of 1980's warfare is that CAS is both a dangerous element to employ and a lethal and effective offensive capability when properly applied. It has been used in a variety of forms in every conflict surveyed. However, CAS assets are highly vulnerable and CAS can expect to suffer attrition in virtually any battlefield environment of today. As shown in the conflicts summarized, helicopters are especially vulnerable to all types of ground fire: however, the Israeli experience in the Bekaa Valley offers some encouragement to helicopter pilots. Advanced electronic

countermeasures permitted effective use of helicopters in that conflict. On the other side of the spectrum, the use of CAS in Grenada was notable because of its effectiveness in that low-intensity conflict and the absence of significant antiair artillery threat.

## CHAPTER IV

### CONCLUSIONS

#### Mid-and High-Intensity Conflict

As others have concluded, CAS still has a vital role to play should war occur in western Europe. (33:73-74) Close air support platforms will be crucial in defense against overwhelming tank and artillery forces of the Warsaw Pact nations, regardless of yet to be realized reductions in their offensive capability.

The changing concept of the battlefield to a more fluid, intermixed situation with pockets of opposing forces in close contact has significant implications for CAS. The first is the problem of separating friend and foe. Technology will play an important role here. The advent of sophisticated laser designation systems helps to simplify this problem assuming smoke and dust does not completely attenuate the designation beam and assuming the target designators are not neutralized during combat. If this happens, CAS systems must revert to visual means of locating and identifying targets.

A second implication is the potential threat to communications. Modern technology helps here, too, with burst transmissions and frequency hopping techniques. As methodology is now defined for the Army and Air Force, the communications process involves many steps and retransmissions. This leads to vulnerability on the battlefield. The problem of clear and reliable communications is one of the greatest challenges to overcome in CAS employment.

Response time is a critical factor in CAS. Significant potential exists for "too little, too late" in the way CAS is now organized in terms of Air Force priorities. This is tempered by the realization CAS will be a difficult mission or will be nonexistent if local air superiority does not exist. If air superiority does exist and a ground commander needs CAS, the possibility still exists he will be told, "Sorry, we have the battlefield air interdiction missions underway now, call back later."

In Europe, these conditions can all be remedied by a redefinition of the CAS mission in that area. By giving the Army responsibility for the mission of close-in fire support using its organic capability of highly accurate and long-distance artillery fire, coordinated with its attack helicopters, the Army can now satisfy its defined close air support needs. Advances in radar suppression and SAM

suppression coupled with nap-of-the-earth navigation makes the helicopter less vulnerable than it once was. This was effectively shown by Israel in the Bekaa Valley. It is a lesson the Soviets did not effectively apply in Afghanistan. The combination of the two systems, artillery and attack helicopters, coupled with a more compact communications network will give a significant improvement over the current responsiveness provided by Air Force delivered CAS.

For the future, the Joint Chiefs of Staff should seriously consider redirecting the CAS mission to the Army. Near term funding for Air Force CAS should be redirected to procurement of additional AH-64 helicopters. This represents a potential for economies by reducing the redundancy of two services having the same capability and still provides for the responsive capability to the service that benefits directly from close air support.

#### Low-Intensity Conflict and CAS

Conflict occurring in the 1980's has covered the spectrum from terrorism through major conventional warfare. Of the several conflicts examined, CAS was most important in terms of application and effect in Granada. It was applied, in varying amounts, in all of the other conflicts examined. This implies that a CAS capability will be necessary in a low-intensity environment in the foreseeable future.

Accurate threat analysis is critical for proper CAS application in modern warfare. Low-intensity conflict opponents may have little or no antiair capability or they may have an extensive and sophisticated mobile capability. Obviously, both situations can provide challenges. Granada showed even obsolete, nonradar directed antiaircraft artillery can have an impact on the battlefield. This type of weaponry is not susceptible to electronic countermeasures and so must be suppressed as a first priority by conventional means. When more sophisticated equipment is present, radar suppression and other countermeasures can be effectively employed. Israel in 1982 is the prime example of how this is accomplished. The suppression of these AAA weapons will then allow use of virtually any CAS platform which is available for close air support.

The mobility, firepower, and loiter time of helicopters has become a significant factor on the modern battlefield, to include providing CAS in a low-intensity environment. The A-10A, although never used in any type of combat, has characteristics which makes it a potential LIC participant when and if it is displaced in Europe and Korea by follow-on CAS platforms. Its main disadvantage is its lack of night and all-weather capability, but modern technology can solve these problems as it has for helicopters.

In low-intensity conflict, CAS should continue as a joint operation. The need for a survivable platform that can travel long distances with long loiter times over the combat area as in Grenada make the AC-130 Spectre gunship a desirable capability. Helicopters can also serve usefully in low-intensity conflict if effective SAM suppression is employed. The threat of antiaircraft artillery has to be neutralized by use of superior firepower as is available on the AC-130 Spectre gunship and the Apache AH-64. As a joint operation, and if dictated by circumstances such as sophisticated SAM capability, the Air Force would be available to apply stand off weapons for battlefield isolation.

The Joint Chiefs of Staff would be well advised to rethink their policy with respect to the cost of follow-on close air support platforms used in low-intensity conflict. The experience of 1980's warfare shows there will be a significant amount of attrition. The military and the country has to either be able to accept these losses or consciously decide not to become involved in this level of conflict. Assuming we will not abandon our national interests in the LIC environment, attrition problems can be dealt with by developing more "expendable" platforms. If the targets themselves are of lower value than occurs in high-intensity conflict, it follows the platforms used against

them should be less expensive and, therefore, more expendable. The ultimate solution would be a remotely piloted vehicle with a laser designated targeting system and weapons delivery system. Although it likely would not be inexpensive, such a system takes the most valuable asset, the human pilot, out of harms way. When this concept has been proven successful in the LIC environment, it could then be adapted to the upper end of the conflict spectrum.

CAS as a battlefield tactic has a place in both high- and low-intensity conflict; however, the force structure for application of CAS should not be the same at both ends of the intensity spectrum. In the European Theater, the Army can accomplish this mission with its own present capability. This frees the Air Force to concentrate exclusively on securing the air above the battlefield and isolating it to some degree. At the low end of the intensity spectrum, existing Air Force fixed wing assets demonstrate a sufficient capability to which the Army helicopter capability adds diversity and flexibility.



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